

FIG. 1

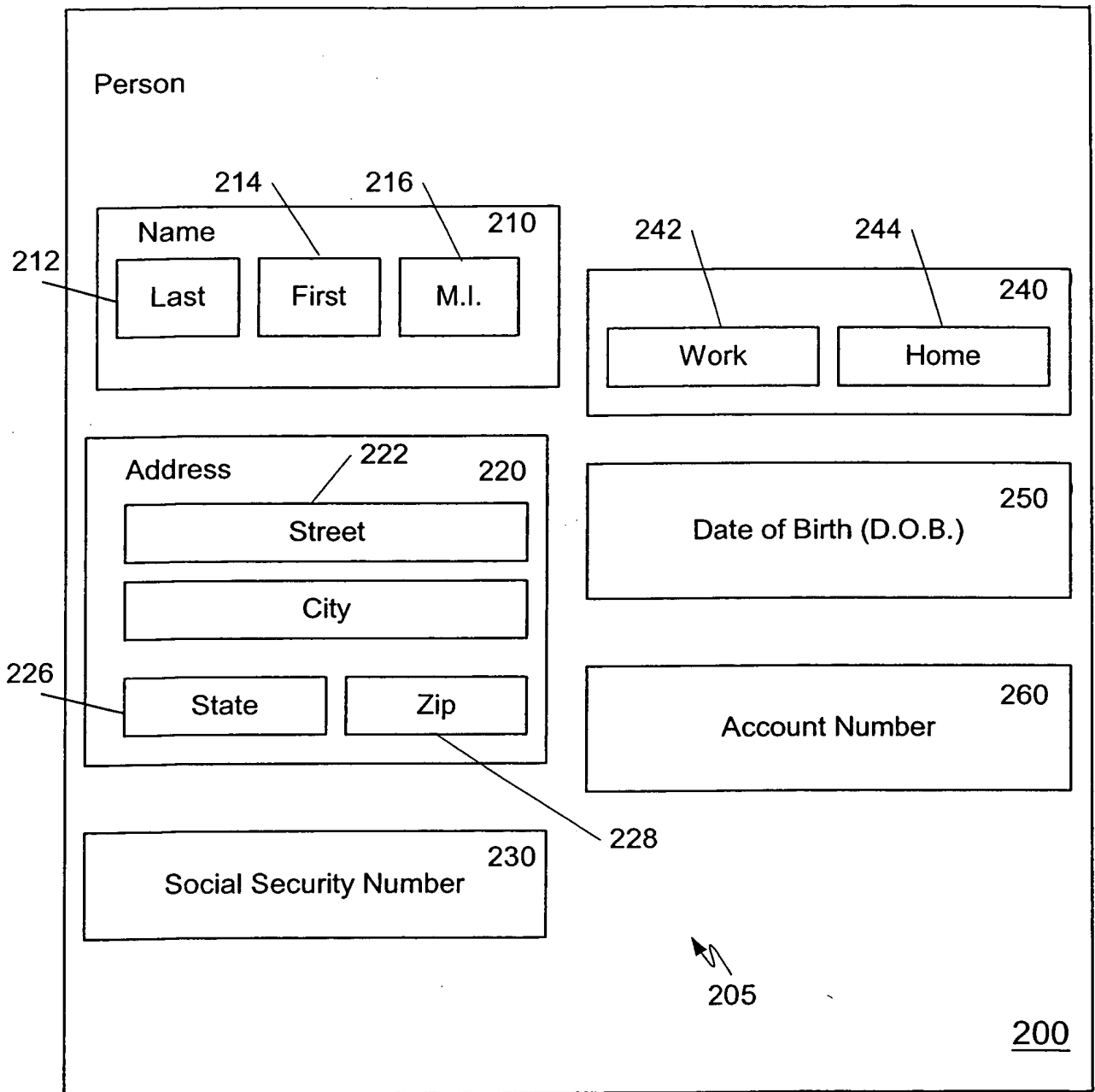


FIG. 2

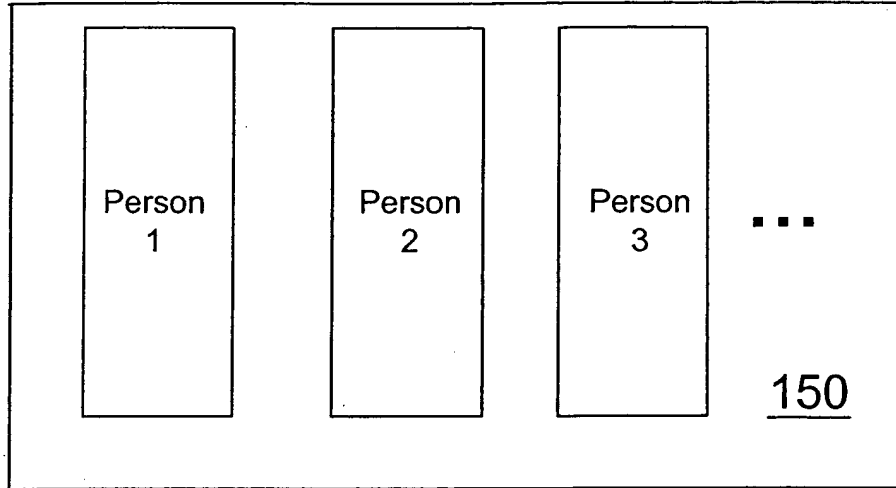


FIG. 3A

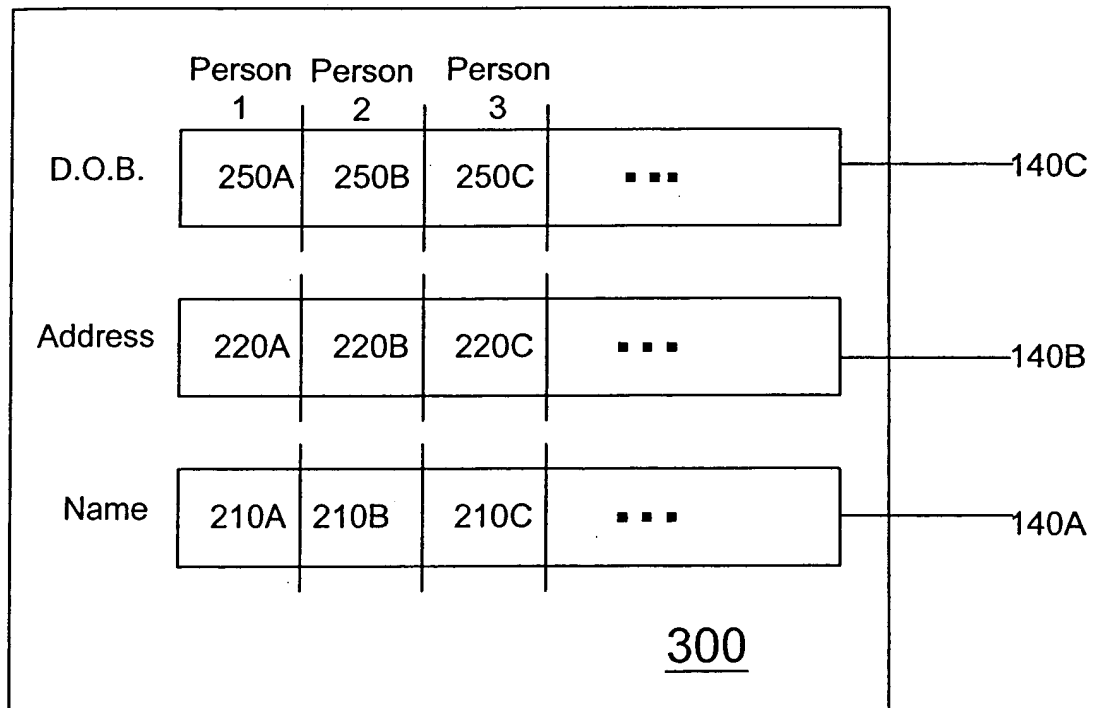


FIG. 3B

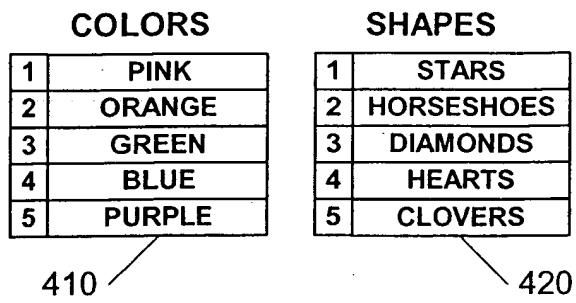


FIG. 4A

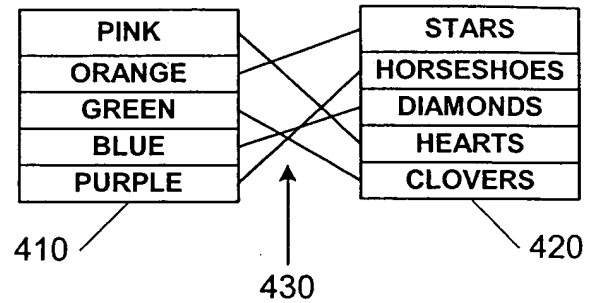


FIG. 4B

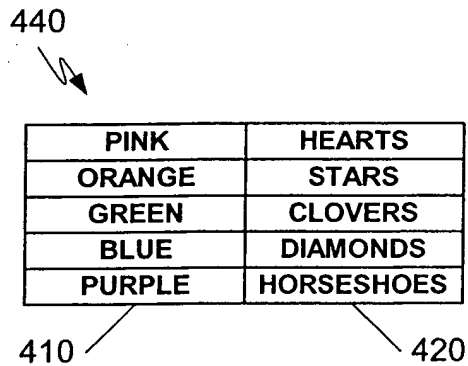


FIG. 4C

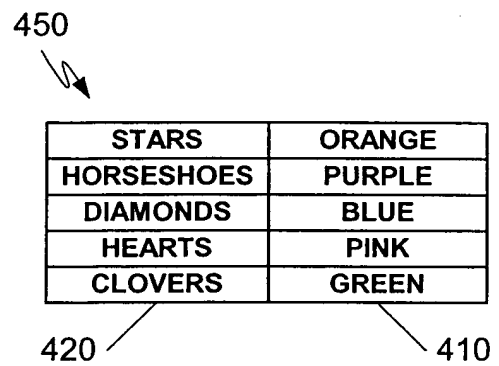


FIG. 4D

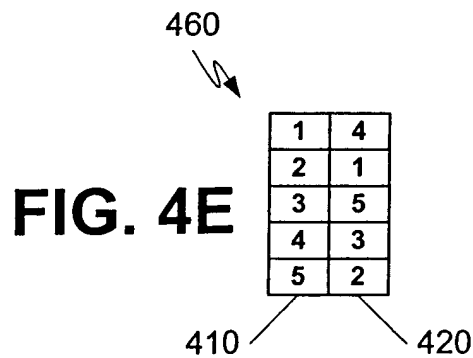


FIG. 4E

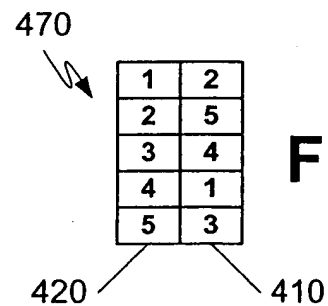


FIG. 4F

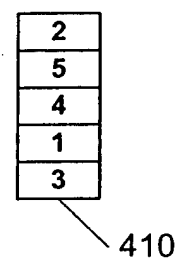
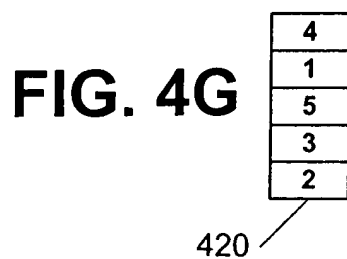


FIG. 4H

FIG. 5

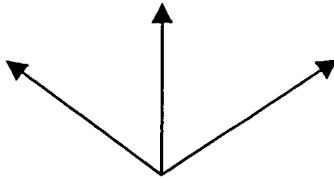
One-to-One



510



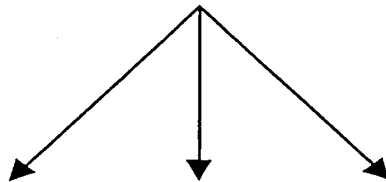
Many-to-One



520



One-to-Many



530



Many-to-Many



540



FIG. 6

MMX Files

MMF		MMR	
One to Many		Many to One	
---	---	---	---
---	---	---	---
12	4	3	57 *
---	---	4	12
---	---	---	---
○ 24	151	---	---
○ 24	201	36	57 *
---	---	---	---
---	---	---	---
43	212	91	119
---	---	---	---
---	---	---	---
* 57	3	151	24 ○
* 57	36	---	---
* 57	200	---	---
* 57	213	200	57 *
---	---	201	24 ○
---	---	---	---
119	91	---	---
---	---	212	43
---	---	213	57 *
---	---	---	---
---	---	---	---

610

620

FIG. 7

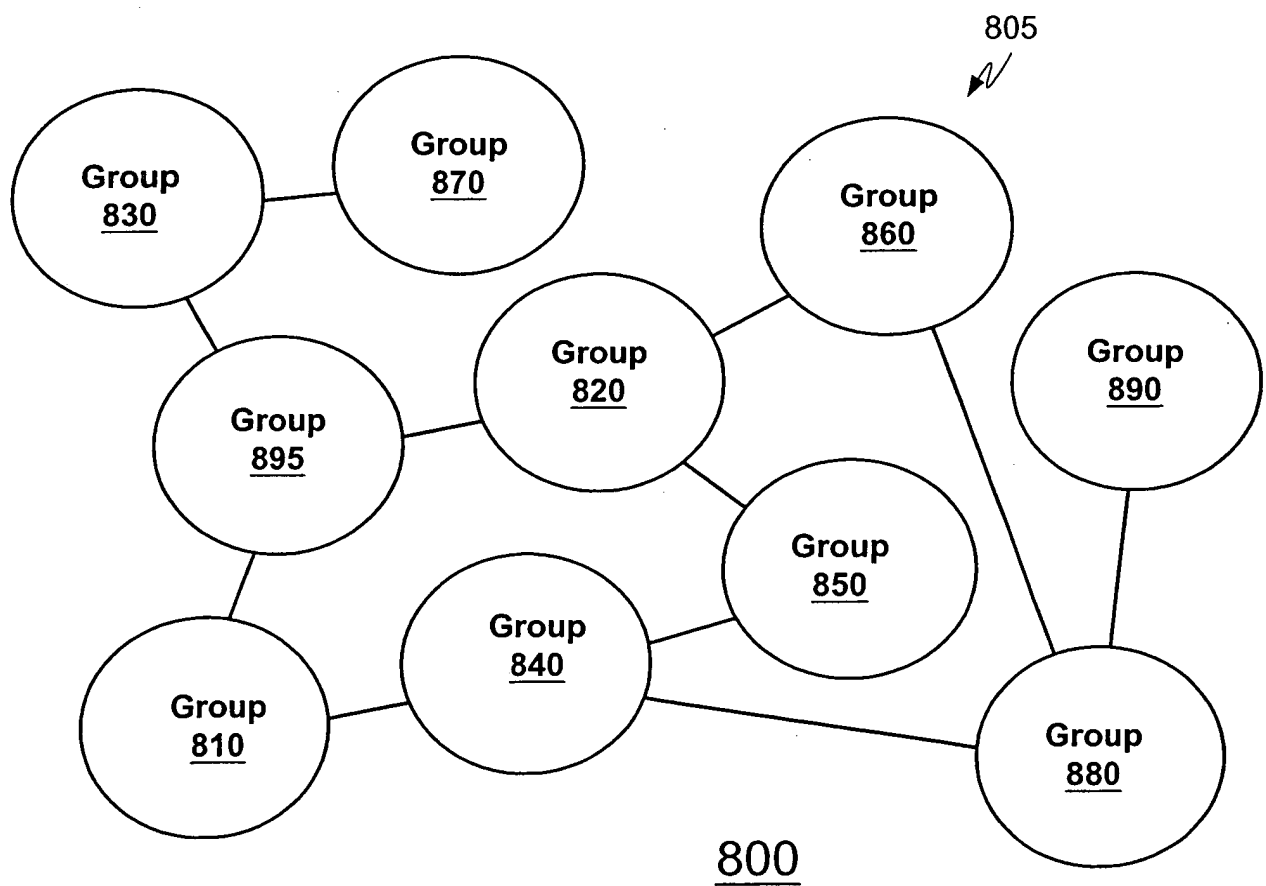
MMX Files

MMF			MMR		
Many to Many'			Many' to Many		
---	---		---	---	
---	---		---	---	
7	256		21	8	*
* 8	38	+	---	---	
* 8	21		---	---	
* 8	312		+ 38	8	*
---	---		+ 38	35	
---	---		+ 38	58	
19	317		+ 38	112	o
---	---		---	---	
---	---		---	---	
35	38	+	70	36	
36	70		71	112	o
---	---		---	---	
---	---		256	7	
58	38	+	---	---	
---	---		---	---	
---	---		312	8	*
o 112	71		---	---	
o 112	38	+	---	---	
113	316		316	113	
---	---		317	19	
---	---		---	---	
---	---		---	---	

710

720

FIG. 8



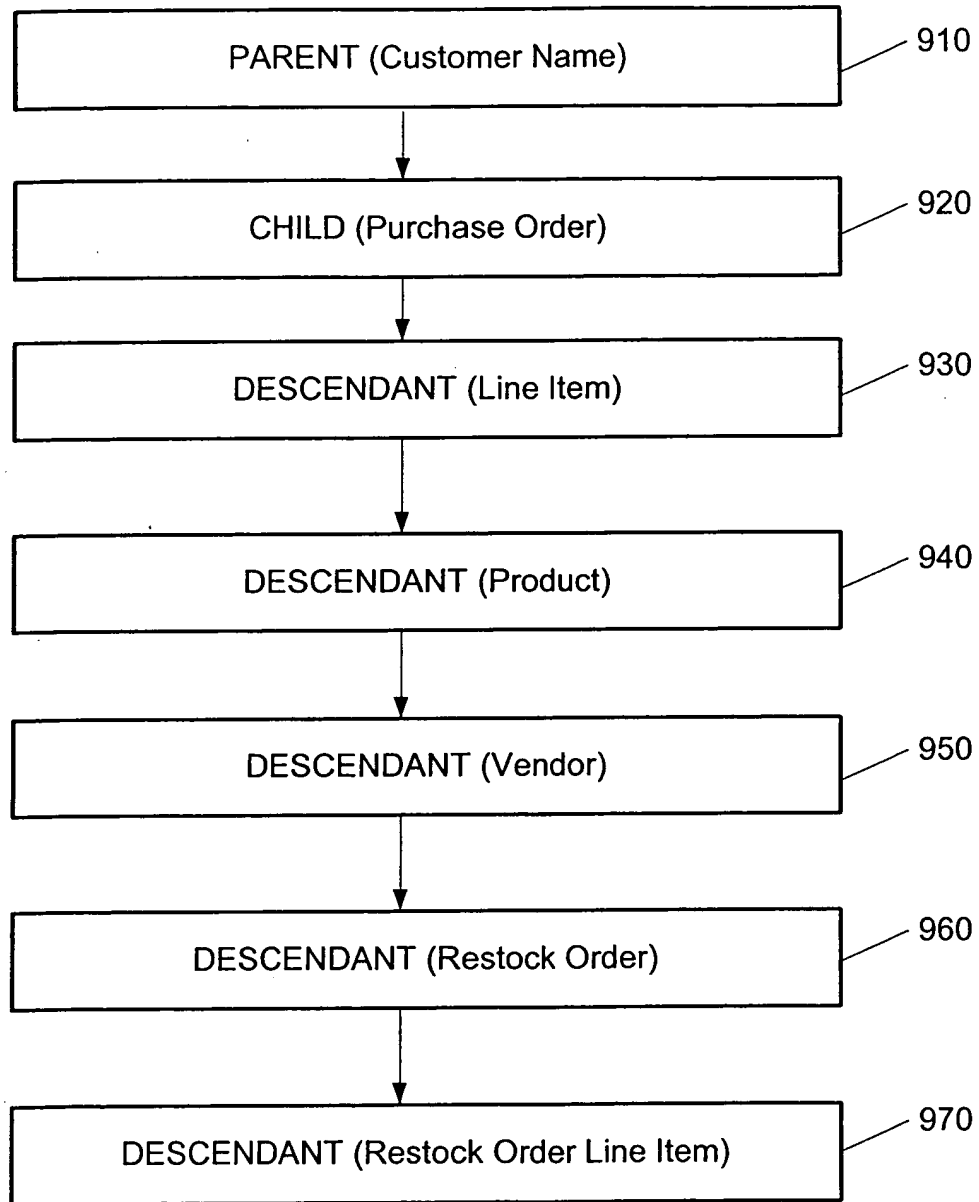


FIG. 9

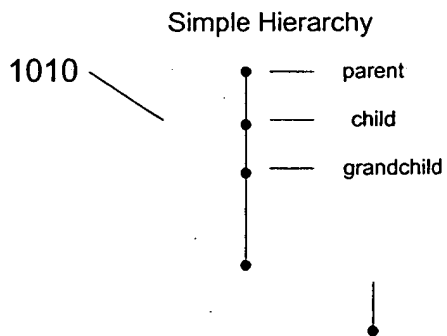


FIG. 10A

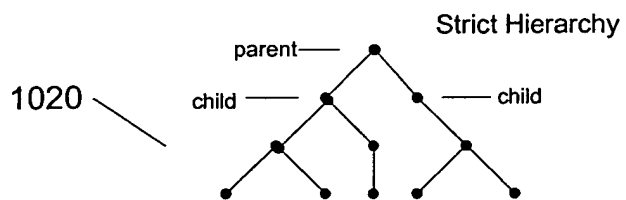


FIG. 10B

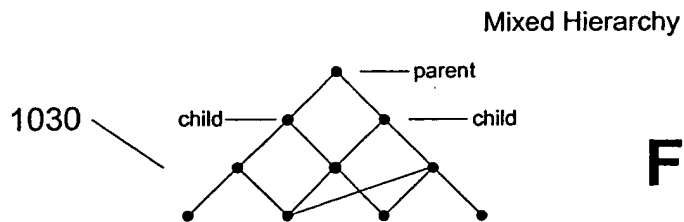


FIG. 10C

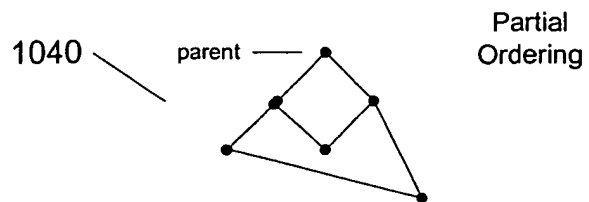
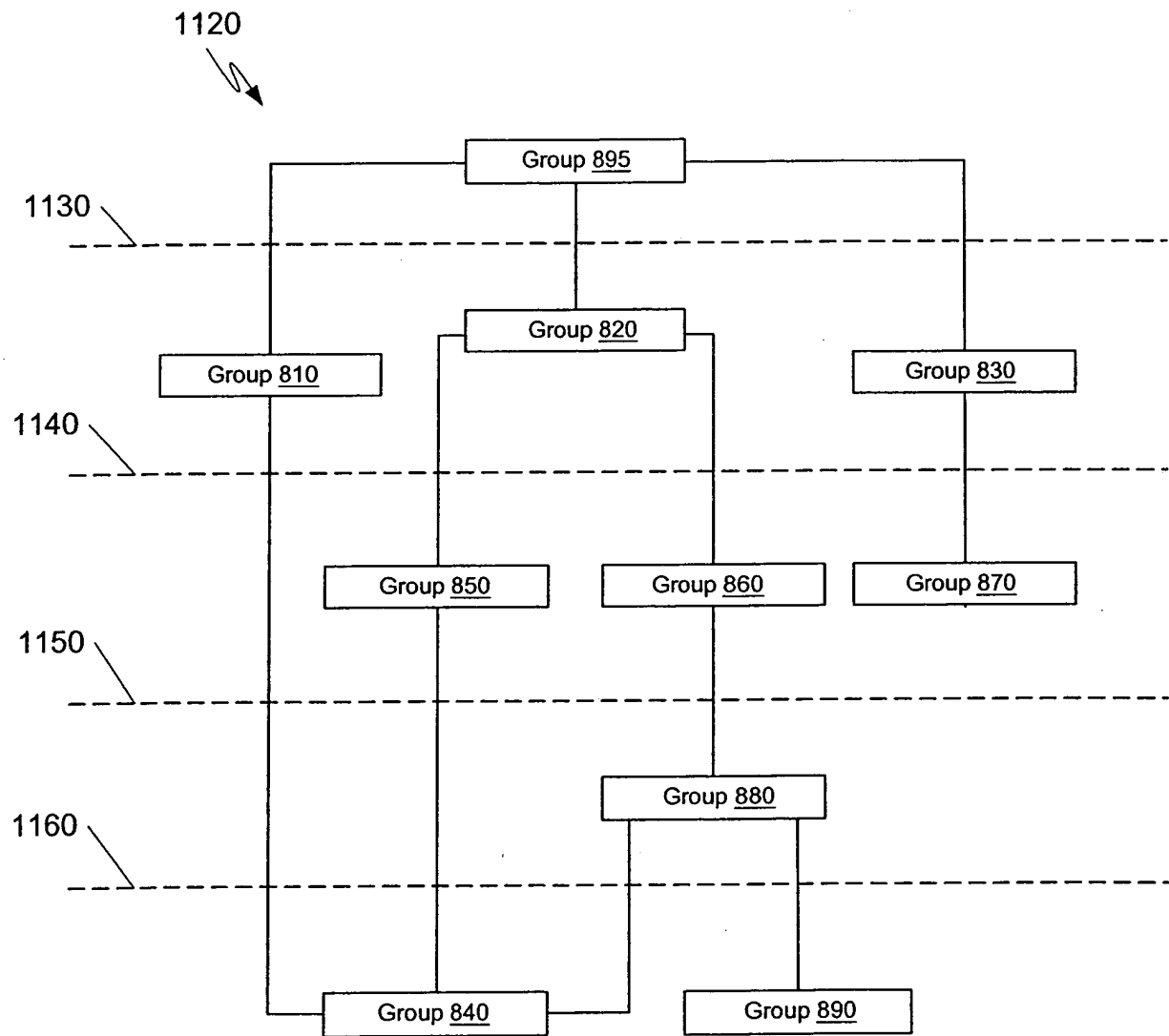


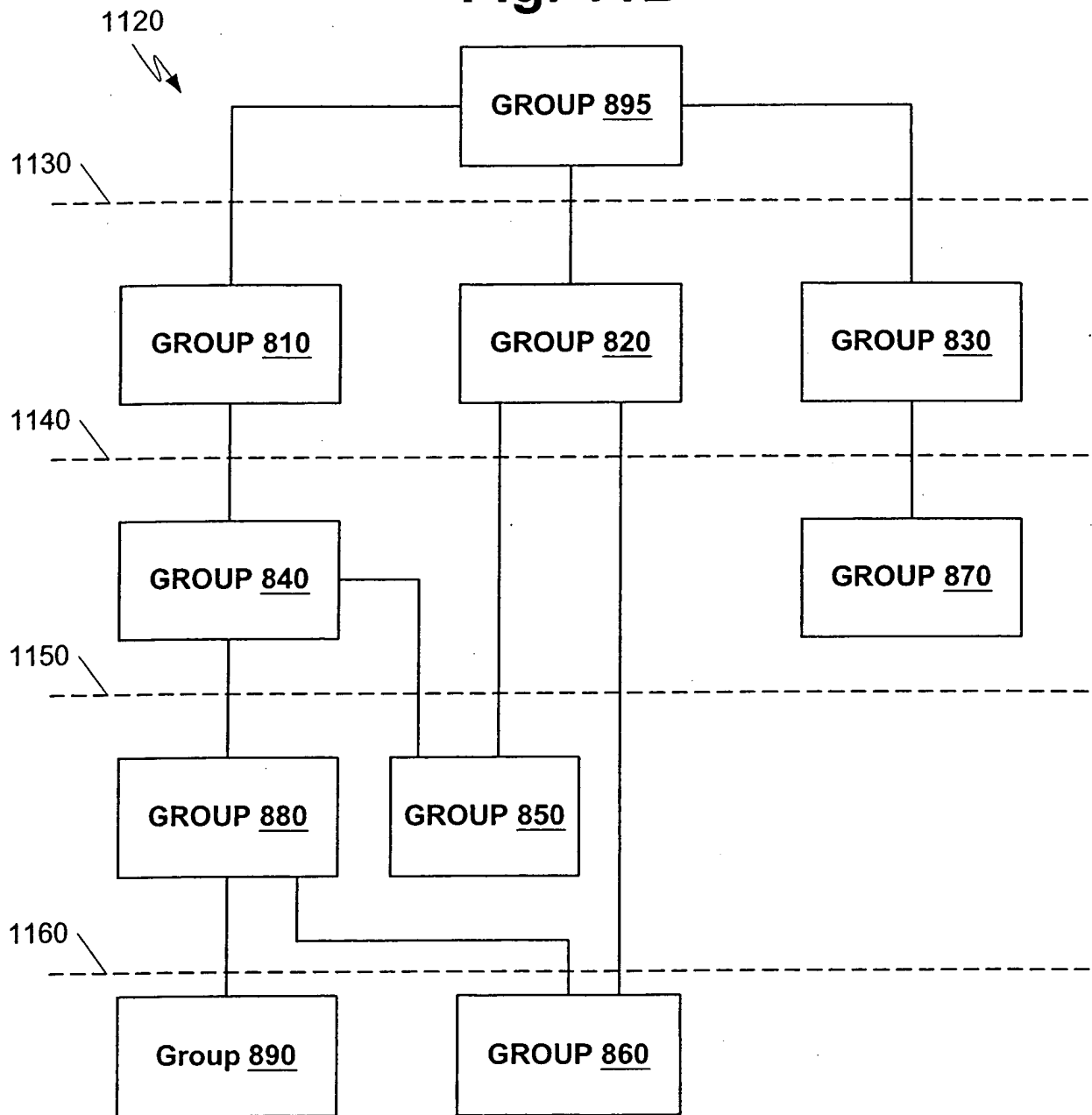
FIG. 10D

Fig.11A



1110

Fig. 11B



1170

FIG. 11C

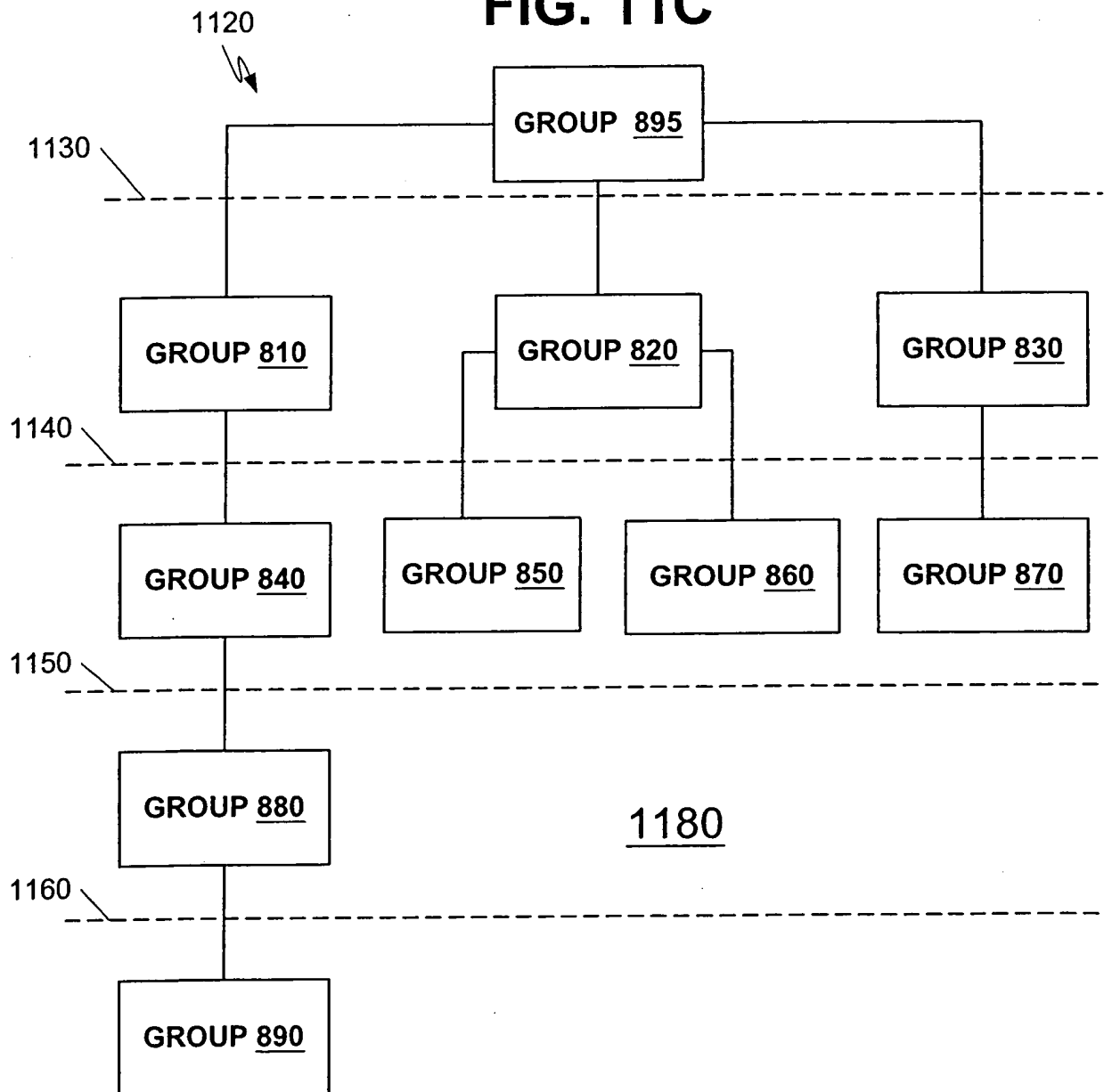


FIG. 11D

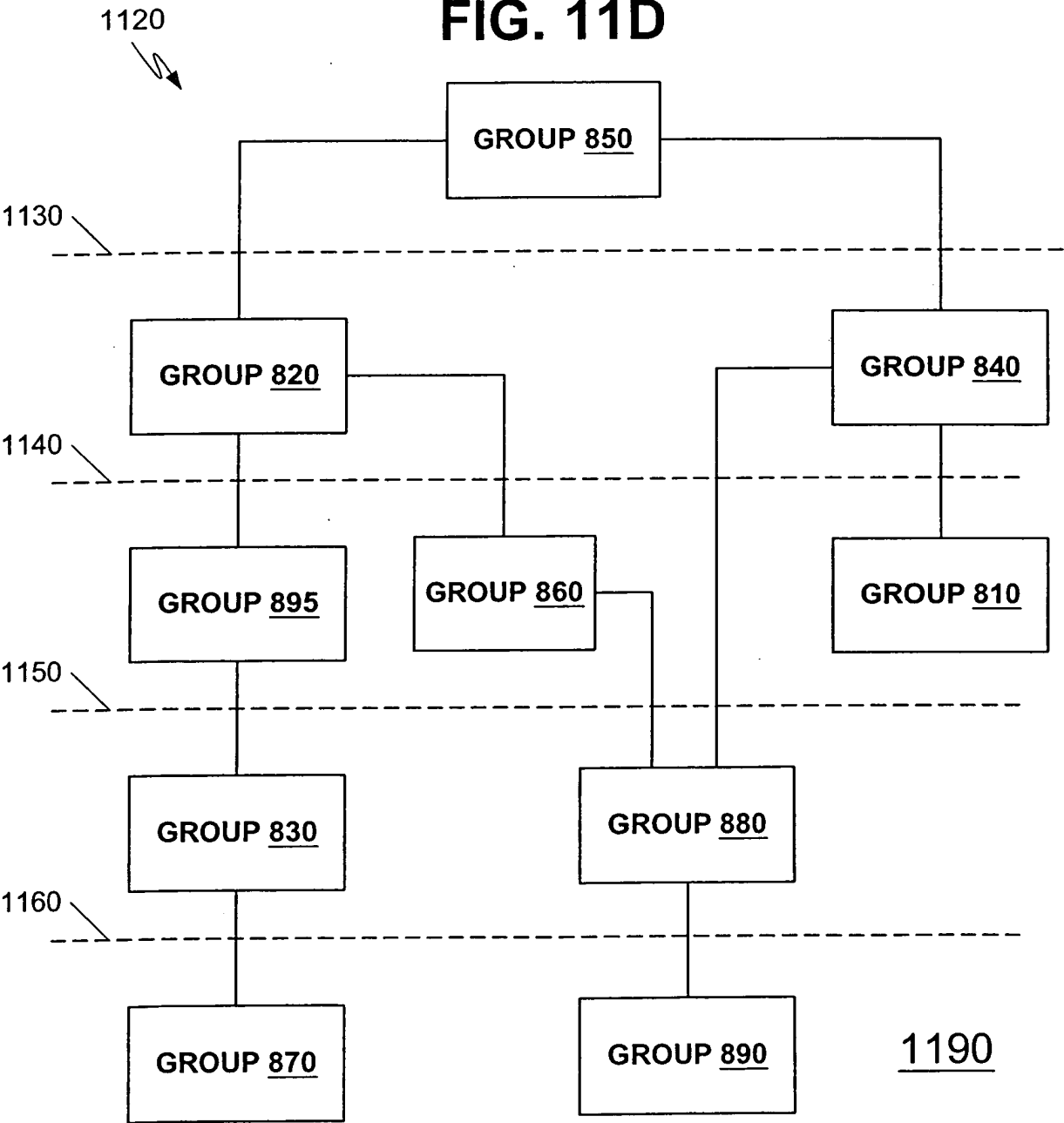
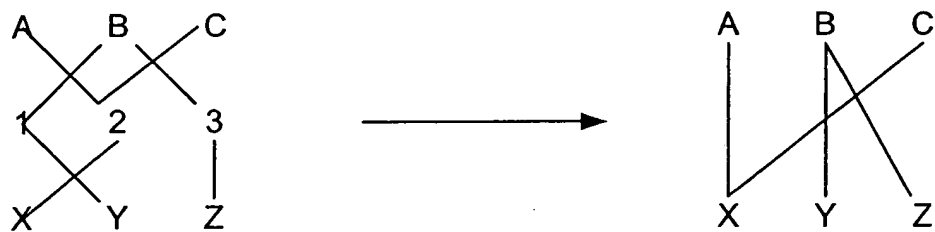


Fig. 12



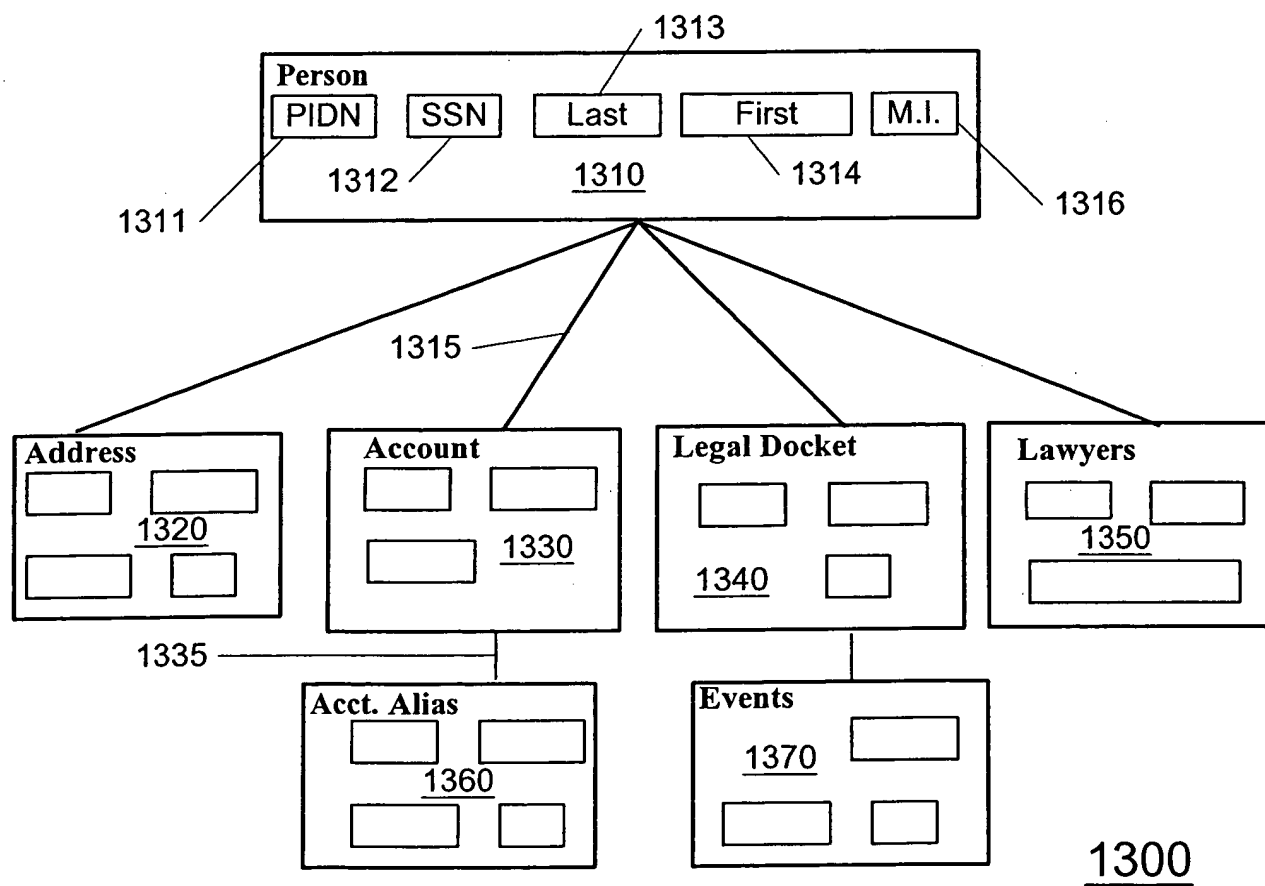


Fig. 13

FIG. 14

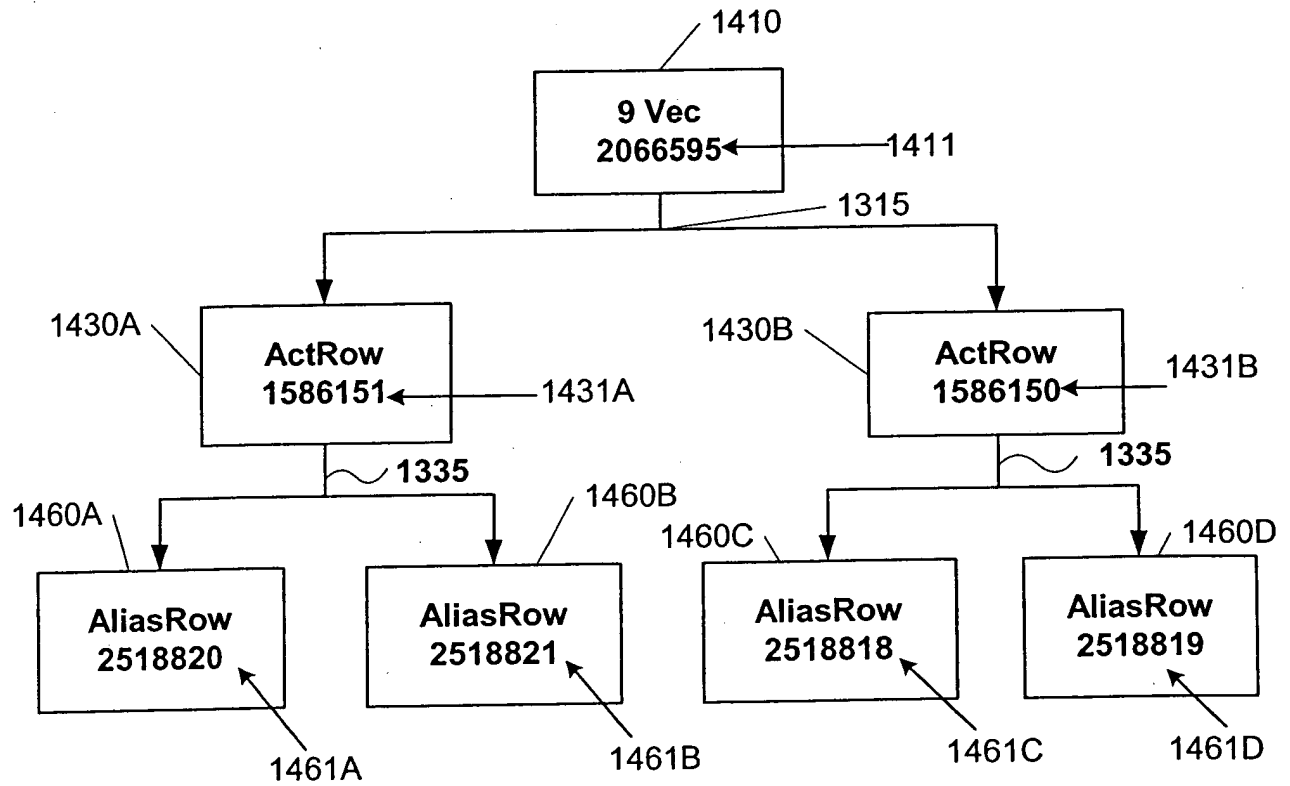


FIG. 15

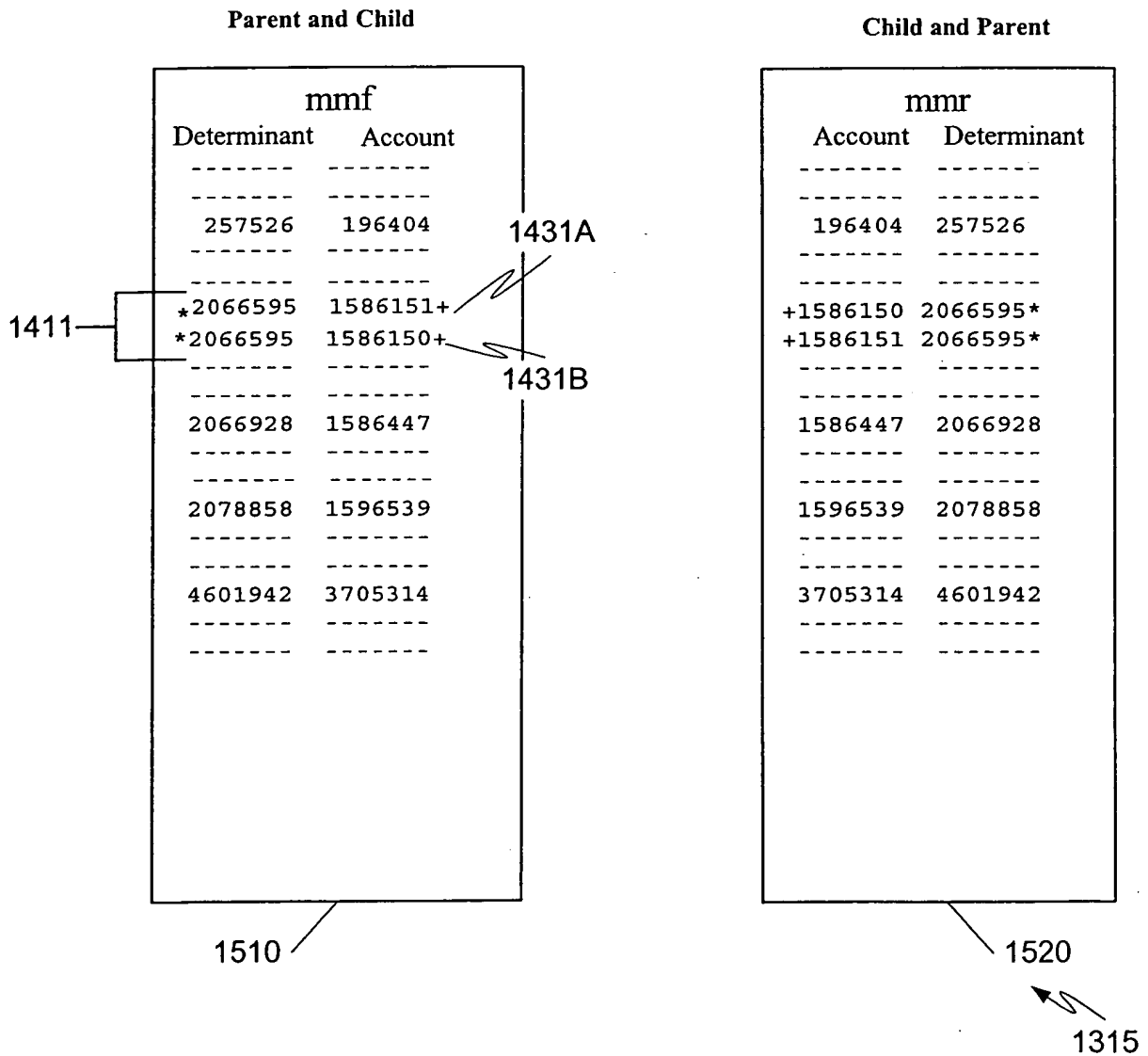
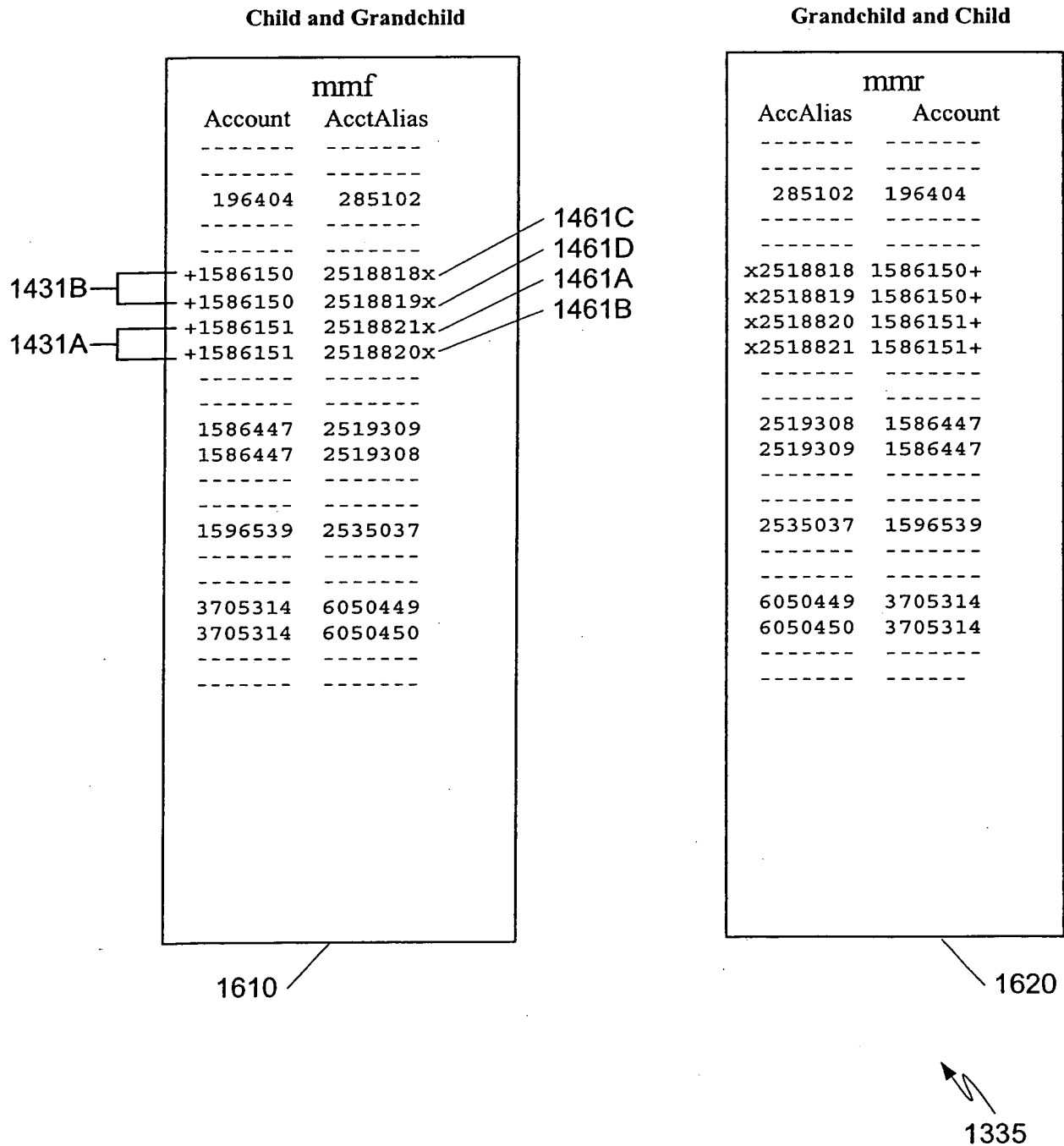


FIG. 16



	1710	
1410 →	<div> <div>0 Vector 2066595 ← 1411</div> <div>1 PIDN 618425</div> <div>2 SSN 512684379</div> <div>3 NAME-01 CARLSON</div> <div>4 NAME-02 SAMUAL</div> <div>5 NAME-03 THOMAS</div> </div>	
1430A →	<div> <div>0 ActRow 1586151 ← 1431A</div> <div>1 AIDN -1</div> <div>2 ACCOUNT 8164375019</div> <div>3 ARefDate 19940705</div> <div>4 ISSUER APX</div> <div>5 OWNER MEN</div> <div>6 ORGAMT 346.37</div> </div>	
1460A →	<div> <div>0 AliasRow 2518820 ← 1461A</div> <div>1 AcctAlias APX8164375019</div> <div>2 AcctAsOf 19940705</div> </div>	
1460B →	<div> <div>0 AliasRow 2518821 ← 1461B</div> <div>1 AcctAlias APX8846390201</div> <div>2 AcctAsOf 19940705</div> </div>	
1430B →	<div> <div>0 ActRow 1586150 ← 1431B</div> <div>1 AIDN 3471</div> <div>2 ACCOUNT 8164375029</div> <div>3 ARefDate 19940705</div> <div>4 ISSUER QPX</div> <div>5 OWNER QPX</div> <div>6 ORGAMT 772.89</div> </div>	
1460C →	<div> <div>0 AliasRow 2518818 ← 1461C</div> <div>1 AcctAlias QPX8164375029</div> <div>2 AcctAsOf 19940705</div> </div>	
1460D →	<div> <div>0 AliasRow 2518819 ← 1461D</div> <div>1 AcctAlias QPX1102416374</div> <div>2 AcctAsOf 19940705</div> </div>	

FIG. 17

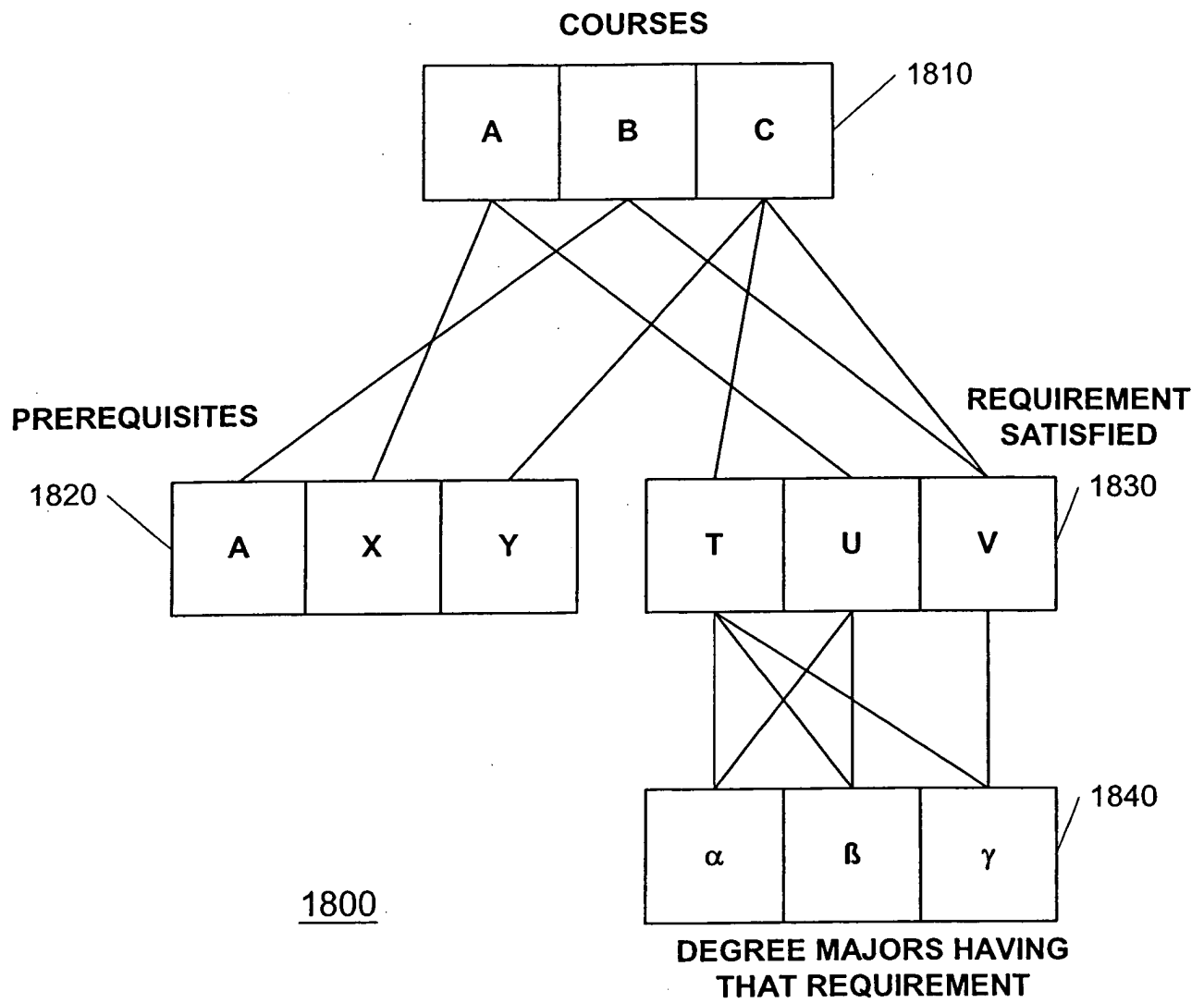


FIG. 18

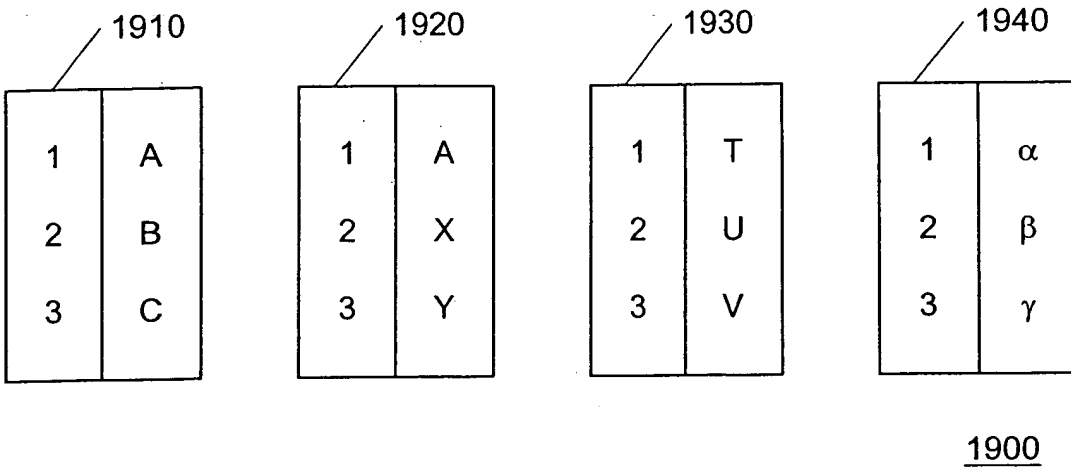


FIG. 19

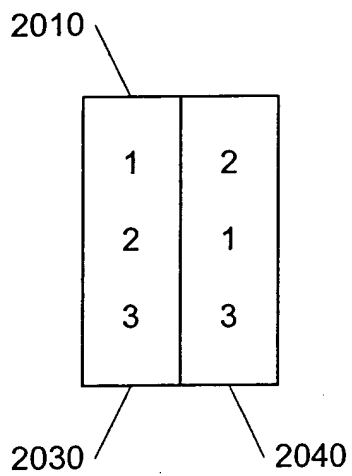


FIG. 20A

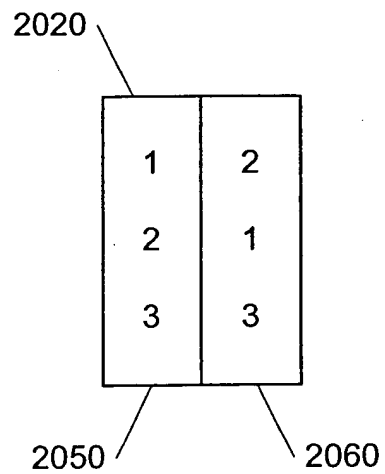


FIG. 20B

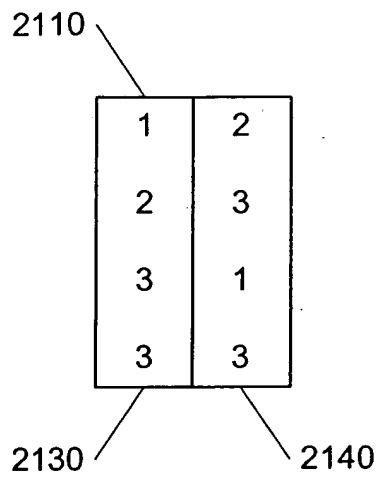


FIG. 21A

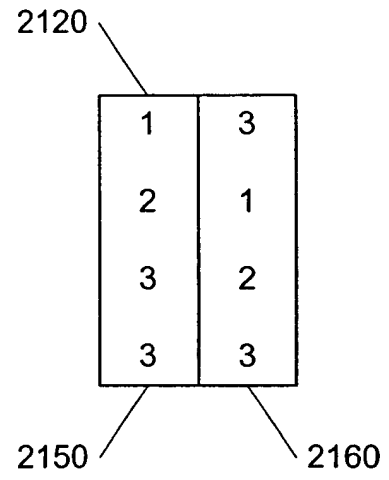


FIG. 21B

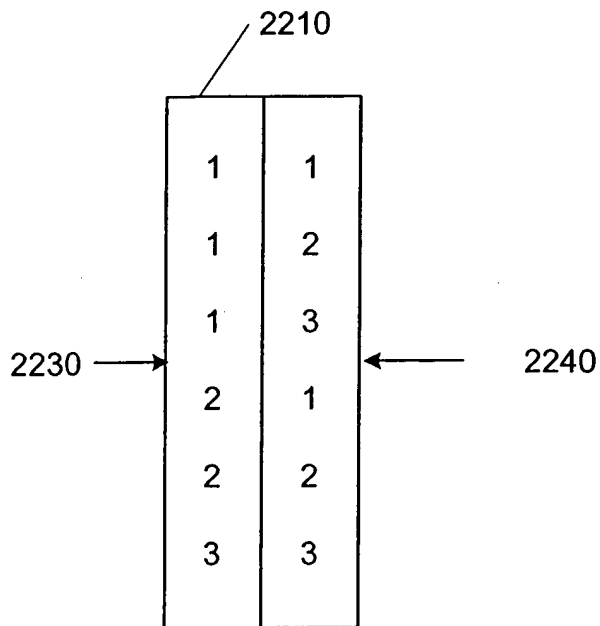


FIG. 22A

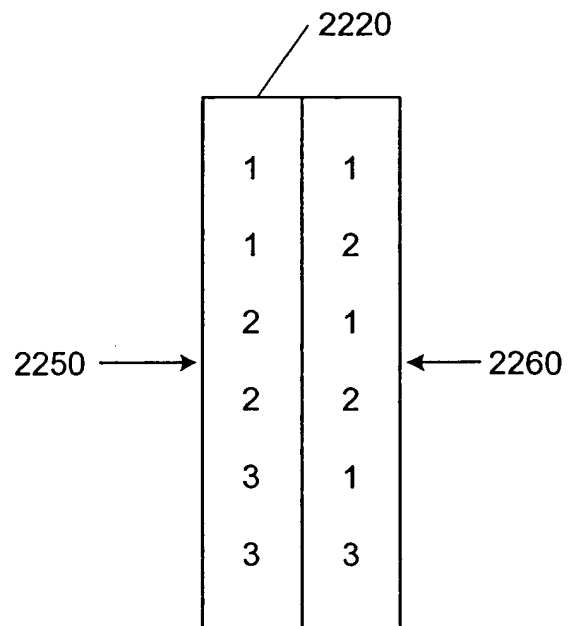
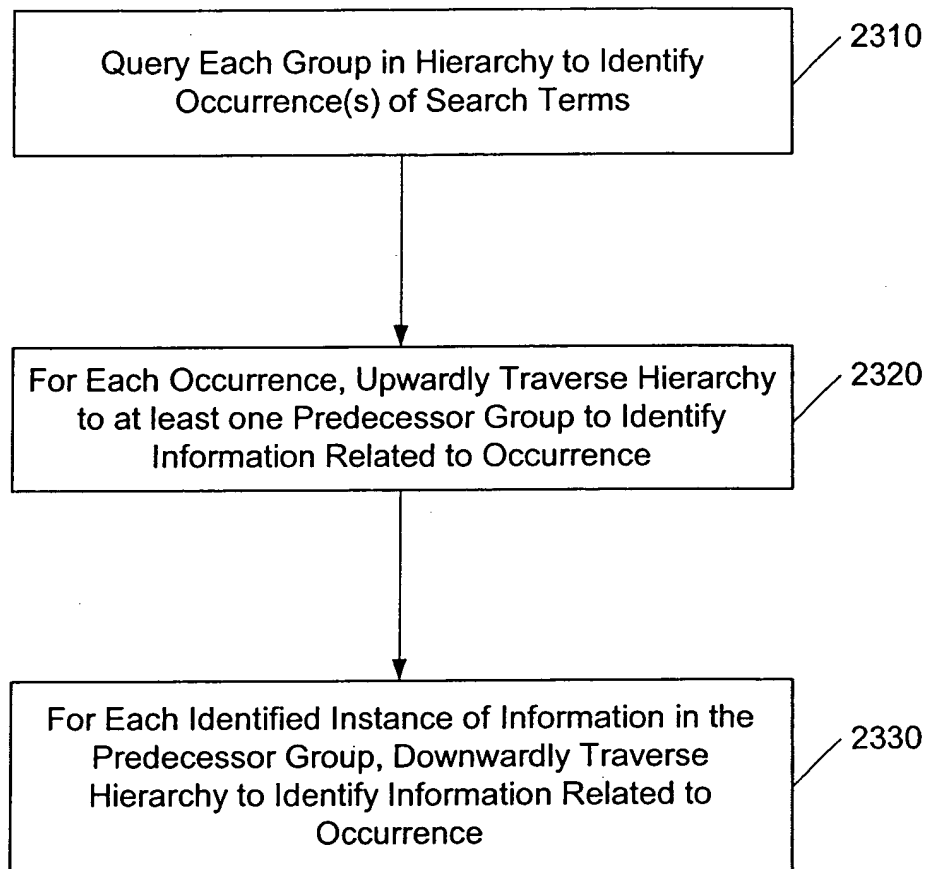


FIG. 22B



2300

FIG. 23

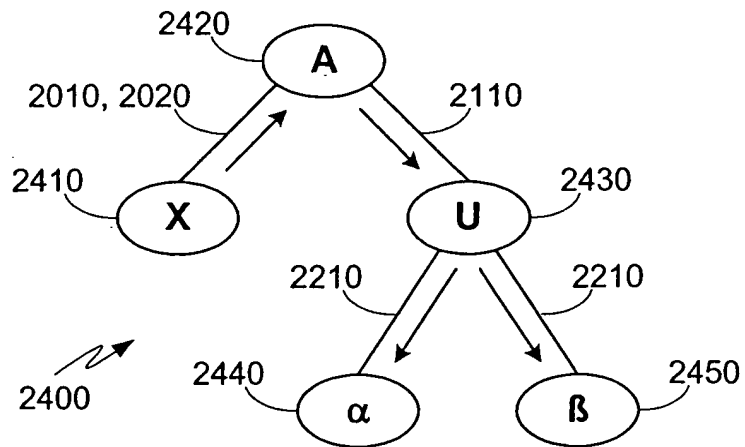


FIG. 24

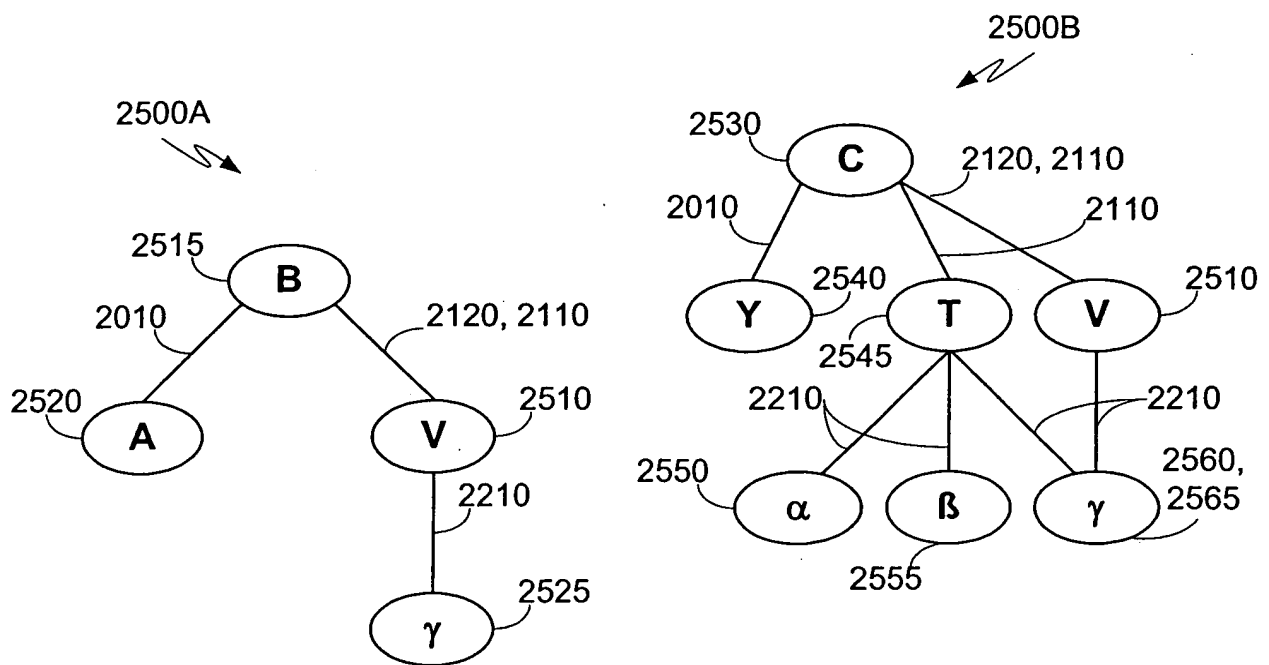


FIG. 25